



Seeding for Success

EARL CREECH, EXTENSION AGRONOMIST

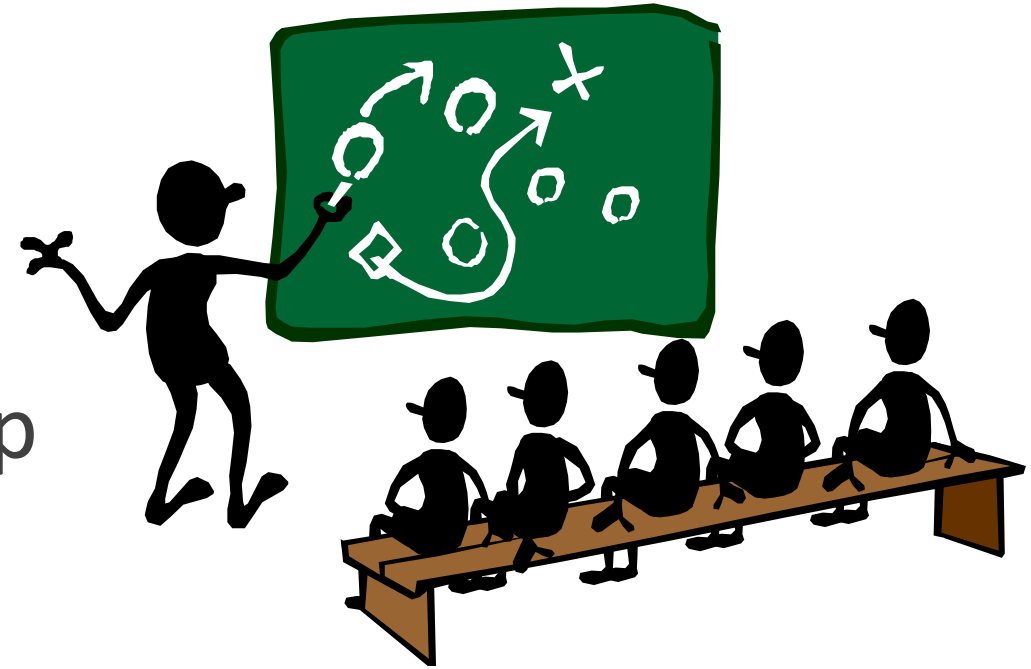
UTAH STATE UNIVERSITY

“The sins of planting will haunt you all season”
- Bob Nielsen, Purdue



Rules of thumb - seeding

1. Use certified seed
2. Rule of boot
3. Appropriate seeding rate
4. Control weeds in seedling crop
5. Rule of hat



Do you know what variety you planted?

“VNS”





Rule of thumb #1: Use Certified Seed

Assurance of good quality seed:

- Genetic purity
- Clean, free of weeds
- Highly viable



Dodder contaminated alfalfa seed (planted at 20 lb per acre)

Dodder seed by wt (%)	No. of dodder seeds sown per acre
0.001	160
0.01	1,600
0.1	16,000
0.25	40,000







#2 - Proper seed placement

“Fluffy” soil is the enemy – air pockets

- Seed can't imbibe sufficient water to germinate
- Roots do not anchor well, absorb adequate moisture, and the plant dies

Good contact with the soil is a must

- Service drill, replace worn parts
- Use press wheels or drag chains or roll the field



Prepare a firm seedbed - Rule of boot

- See imprint of heel and sole but not arch

When in doubt, more firm is better



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Seeding depth

Most crop failures from seeding result from seeding too deeply

Plant so depth is 2.5 to 5 times the width of the seed

Adjust based on moisture, soil texture, temperature, time of year, experience, etc.

Choice of too deep vs. too shallow?



#3 - Select an appropriate seeding rate

Traditional seeding rates have changed because of:

- Improved seeding equipment
- Improved seed technologies (i.e., coatings, treatments, etc)
- Improved genetics (emergence, vigor)
- Seed is expensive



Photo source: Progressive Forage Grower

RR Alfalfa Seeding Rate Project

Objective:

- How herbicide treatment and seeding rate affect persistence, yield, and quality of RR alfalfa

6 Locations (5 year trial):

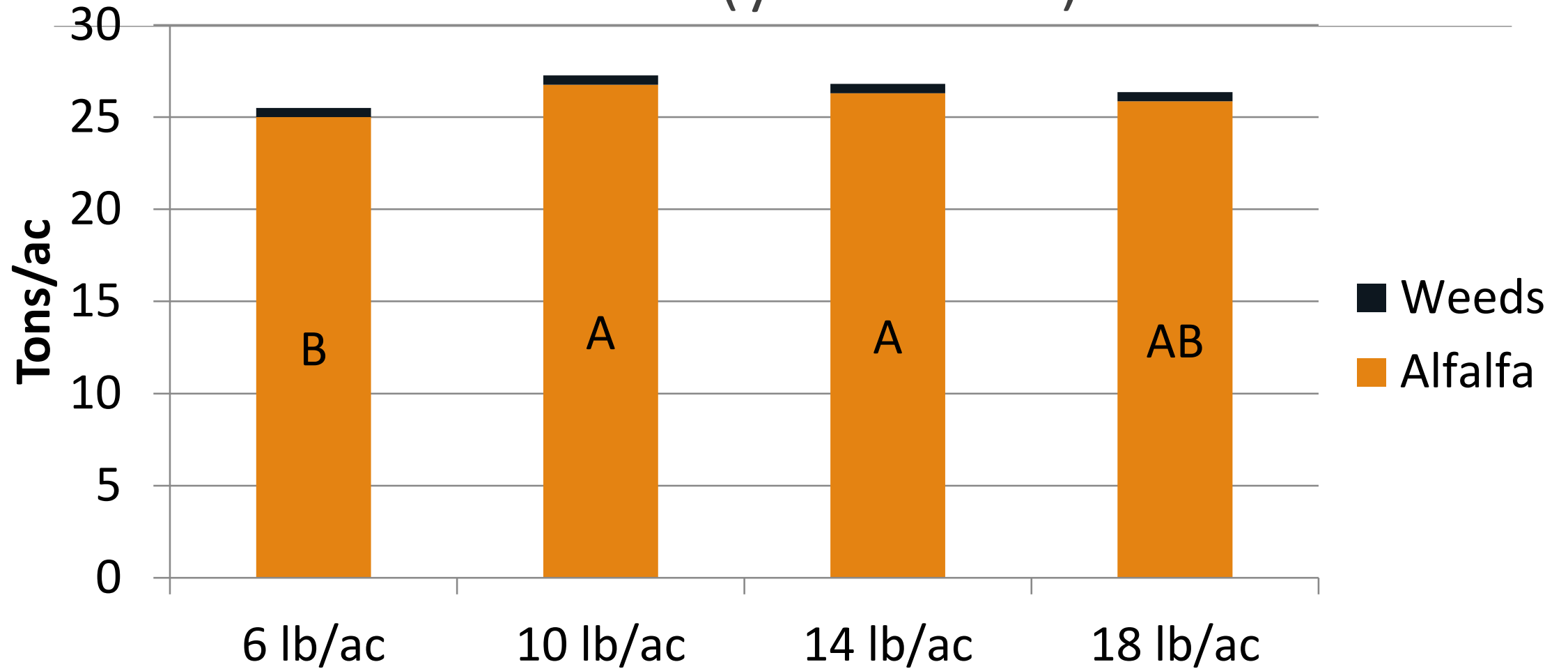
- Pennsylvania, Ohio, Wisconsin, South Dakota, Oklahoma, Utah

Seeding rates:

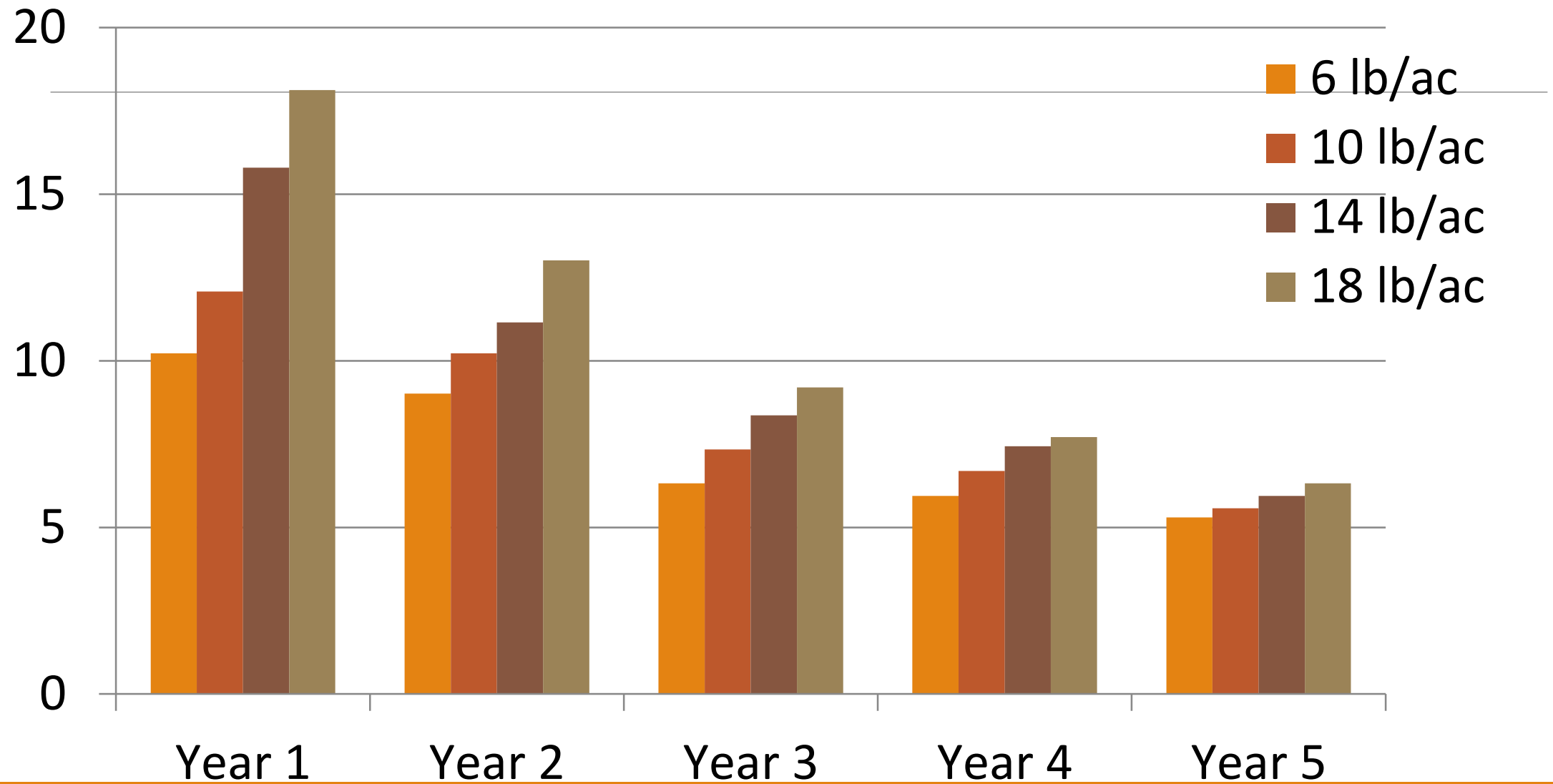
- 6, 10, 14, 18 lbs/A



Yield – Cumulative (years 1-5)



Alfalfa density (plants/sq ft)



Is this a problem?



#4 - Control weeds in seedling crop

RR alfalfa seeding rate trial

- Herbicides – applied once in seeding year only
 1. Roundup WeatherMax (glyphosate) @ 0.75 lb/A
 2. Raptor (imazamox) @ 5 oz/A
 1. Non-treated check







Weed Control and Alfalfa Injury

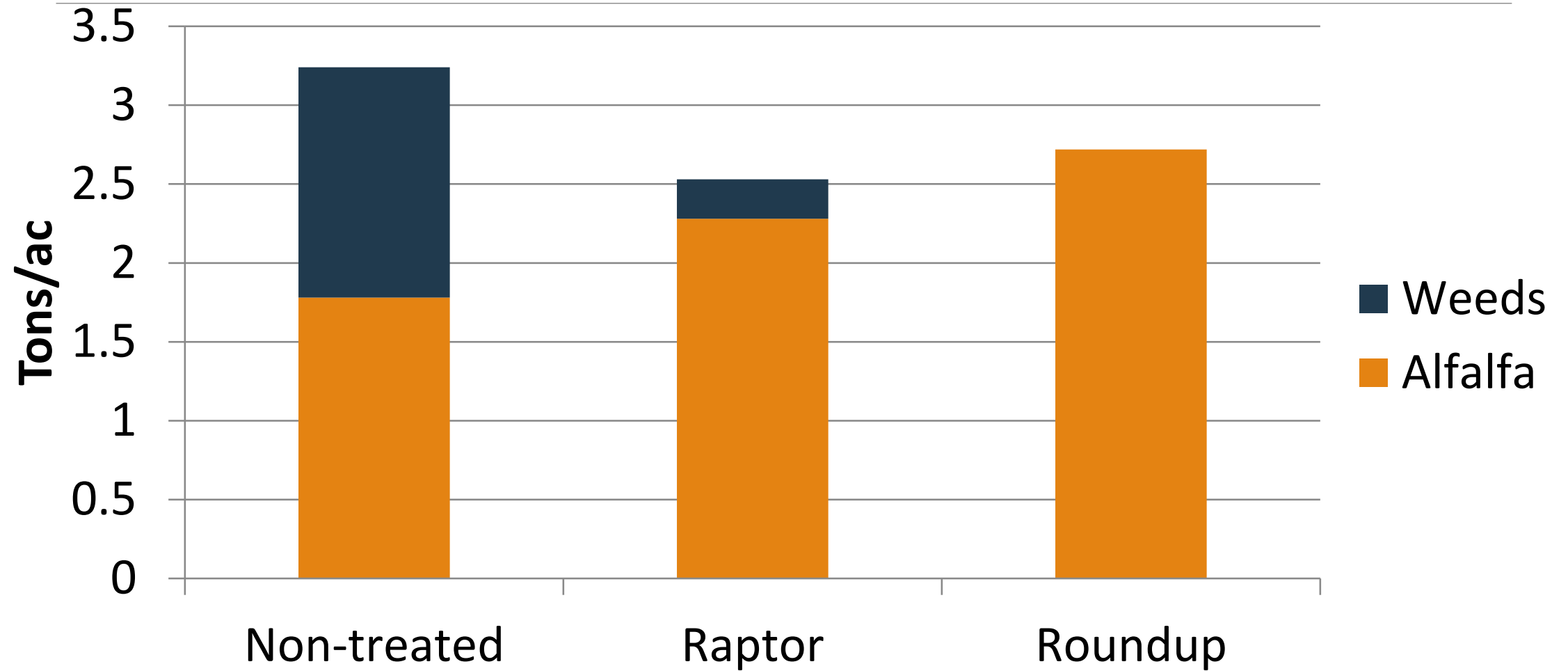
Year 1

- Excellent control in herbicide treated plots
- No effect due to seeding rate
- Alfalfa injury:
 - Roundup – none
 - Raptor – early stunting/chlorosis

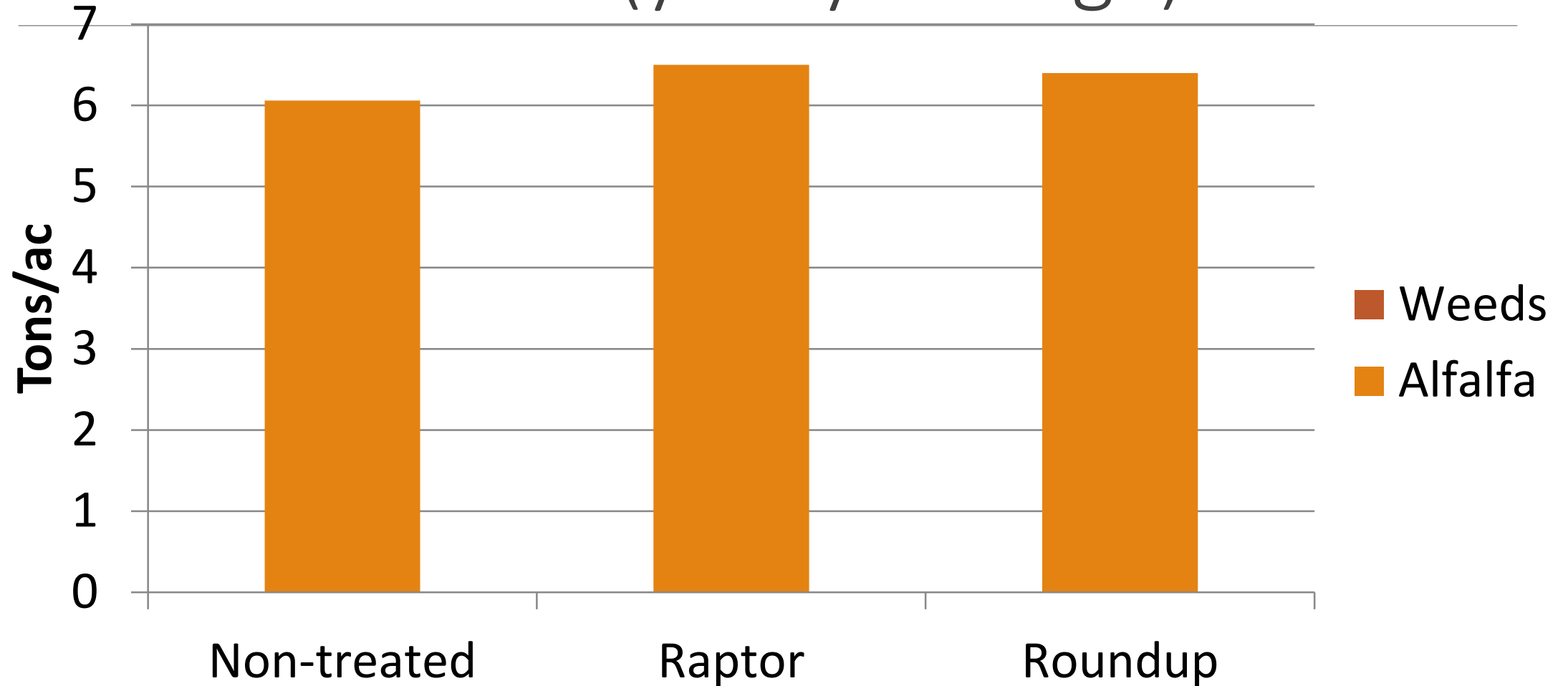
Years 2-5

- All plots – near perfect weed control
- No visual injury to alfalfa

Yield – Year 1



Yield – Years 2-5 (yearly average)



#5 - Was the seeding successful:

Rule of Hat

20-25 seedlings per square foot

Area under traditional baseball cap is about one-half square foot

Toss hat at random intervals, then count seedlings under hat

Stand acceptable if 10-12 seedlings under hat



Take home messages:

To successfully establish a forage stand

1. Use certified seed
2. Proper seed placement
3. Appropriate seeding rate
4. Control weeds in seedling crop
5. Assess the results

